

The author then details at length the methods by which he effected these comparisons, and gives tables of the various measurements, which are afterwards comprised in the following abstract, taking Colonel Lambton's standard, used in the survey of India, as the point of departure, in consequence of its being the shortest. Captain Kater finds the excess on 36 inches to be as follows:—

Sir George Shuckburgh's standard	+ 000642
Bird's standard, 1760	+ 000659
General Roy's scale	+ 001537
Royal Society's standard	+ 002007
Ramsden's bar, used in the trigonometrical survey	+ 003147

The author then proceeds to investigate the effect of these differences on the figure of the earth, and arrives at the conclusion, that the comparison given in the abstract of Colonel Lambton's paper, in the Philosophical Transactions for 1818, namely, $\frac{307}{307.55}$ should be $\frac{307}{307.55}$, which agrees very nearly with the deduction of M. Laplace from the lunar irregularities; with the result of Dr. Young's investigation, by a comparison of the mean with the superficial density of the earth; and with the conjecture hazarded by the author, from the compression given by the experiments on the length of the pendulum at Unst and Portsoy.

An Account of the Urinary Organs and Urine of Two Species of the genus Rana. By John Davy, M.D. F.R.S. Read January 18, 1821. [*Phil. Trans.* 1821, p. 95.]

The species of the genus *Rana*, adverted to in the title of this paper, are the *Rana taurina*, or bull frog, and the *Bufo fuscus*, or brown toad.

The kidneys of the bull frog are lobulated, and the ureters terminate in the rectum, between the orifice of the bladder and the anus; the bladder is large, and its orifice well calculated to receive the urine as it flows from the ureters, its escape from the rectum being prevented by the sphincter muscle of the anus. In the brown toad the ureters have an analogous termination; but the bladder when distended resembles two oval bags, freely communicating just over the symphysis pubis, to which they are firmly attached.

The urine of the bull frog is without action on vegetable colours, and contains urea, with traces of sea salt and a little phosphate of lime.

The author concludes this paper with some remarks relative to the dissimilarity of the urine in animals, whose diet is similar, and considers the nature of that secretion as depending rather upon the intimate and invisible structure of the kidney than upon the kind of food which they consume. The brown toad and the lizard both live upon flies, but their urine is very different; the parrot eats vegetables only, and the snake feeds exclusively upon animal matter, yet in them the urinary secretion is in all main points alike, uric acid being the predominant ingredient in both.